

REMARKS

The foregoing amendments correct typographical errors and multiple claim dependency for purposes of calculating the claim fee.

Attached hereto is a marked-up version of the changes made to the claims by this Amendment.

If there are any further fees required by this amendment not covered by an enclosed check, or if no check is enclosed, please charge the same to Deposit Account No. 16-0820, Order No. 33585.

Respectfully submitted,

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**Version with Markings to Show Changes Made**

U.S. National Application of PCT/FR99/02979  
Applicant: Vincent Derycke et al.

**IN THE CLAIMS:**

The claims have been amended as follows:

1 1. (Amended) Monoatomic and monocrystalline layer  
2 of diamond type carbon, this layer being [characterised]  
3 characterized in that it is formed on the surface of a  
4 monocrystalline substrate of SiC and extends closely over  
5 the totality of this substrate [(2)].

1 2. (Amended) Monoatomic and monocrystalline layer  
2 according to claim 1, the SiC monocrystalline substrate  
3 being a thin layer [(2)] of monocrystalline SiC in cubic  
4 phase  $\beta$ -SiC [(100)] formed on a platelet of Si, the  
5 monoatomic and monocrystalline layer thus closely  
6 covering the totality of this platelet.

1 4. (Amended) Monoatomic and monocrystalline layer  
2 according to [any one of claims 1 to 3] claim 1, covered  
3 with a monocrystalline [later] layer of diamond formed by  
4 growth from the monoatomic and monocrystalline layer, the  
5 latter acting as matrix.

1 5. (Amended) Manufacturing process of a monoatomic  
2 and monocrystalline layer of diamond type carbon, this

process being [characterised] characterized in that one forms a monocrystalline substrate in SiC terminated by a carbon atomic plane according to a c(2x2) reconstruction, this plane being a plane of carbon-carbon dimers [(4)] of sp configuration , and in that one carries out at least one annealing of this substrate, this annealing being able to transform the plane of carbon-carbon dimers [(4)] of sp configuration into a plane of carbon-carbon dimers [(8)] of sp<sup>3</sup> configuration thus forming a monoatomic and monocrystalline layer of diamond type carbon.

6. (Amended) Process according to claim 5, in which the SiC monocrystalline substrate is prepared from a thin layer of monocrystalline SiC in cubic phase  $\beta$ -SiC with a face [(100)] terminated by a layer of Si.

7. (Amended) Process according to claim 5, in which the SiC monocrystalline substrate is prepared from a monocrystalline SiC platelet in hexagonal phase with a face [(1000)] terminated by a layer of Si.

8. (Amended) Process according to [any one of claims 6 and 7] claim 6, in which, to obtain the atomic plane of carbon according to the reconstruction c(2x2), an annealing is carried out capable of eliminating the layer of Si.

1           9. (Amended) Process according to [one or the other  
2 of claims 6 and 7] claim 6, in which, to obtain the  
3 atomic plane of carbon according to the reconstruction  
4 c(2x2), a deposit of hydrocarboned molecules is made on  
5 the Si layer followed by cracking of these molecules.

1           11. (Amended) Process according to [any one of  
2 claims 5 to 10] claim 5, in which, to transform the plane  
3 of carbon-carbon dimers of sp configuration into a plane  
4 of carbon-carbon dimers of sp<sup>3</sup> configuration, one carries  
5 out an annealing or a plurality of successive annealings,  
6 at a temperature approximately equal to 1250 C, of the  
7 monocrystalline substrate in SiC terminated by the atomic  
8 plane of carbon according to the reconstruction c(2x2),  
9 the total time of annealing being greater than or about  
10 equal to 25 minutes.

Claims 12 - 14 have been added.